

bug, *Zelus* sp., collected on Agave plants near bean fields, were shipped to Birmingham, but the young nymphs, when reared at the latter place, refused to feed on *Epilachna* larvae.

As to wild food plants: the large numbers of leguminous plants and trees were examined for *Epilachna* in Mexico, only two were found to harbor the beetle. One is a wild climbing bean, *Phaseolus* sp., abundant along streams, the other a wild weed known as beggar-weed, or tick trefoil (*Meibomia* sp.) The latter harbored large numbers of bean beetles of all stages, and was believed to be the beetle's native wild food plant.

This paper was discussed by Messrs. ALDRICH, BRIDWELL, HOWARD and SCHWARZ.

Second paper: Dr. A. C. BAKER, *A history of the study of plant lice.*

Notes: J. C. BRIDWELL discussed the occurrence of the clover seed chalcid in the seeds of *Astragalus*.

Some months ago the speaker had reported the discovery of *Bruchophagus funebris* in pods of a species of *Oxytropis* (*O. lamberti*), a genus closely related to *Astragalus*. It is now possible to record an additional instance of attack upon an *Astragalus* by a *Bruchophagus*. This was discovered in a specimen of *Astragalus douglasii* in the National Herbarium collected on June 25, 1891 by Coville and Funston near Tehachipi, Kern County, California, at an elevation of 1000 metres. The *Bruchophagus* was accompanied in its attacks by *Acanthoscelides pullus* (Fall) and had at first been mistaken for a *Eurytoma* parasitic upon the Bruchid. The material from its age and its condition after having been extracted from the seed is not in the best of condition for determination and in it Mr. Gahan sees certain apparent differences of sculpture and color which do not permit him to positively determine it as *funebris* and suggest its belonging to another species, the question of its identity requiring biological evidence for its answer.

The finding of *Bruchophagus* in pods so different from the fruit of the previously known host plants in *Trifolium* and *Medicago* as the compact ovoid pods of *Oxytropis lamberti* and the large bladdery membranous pods of *A. douglasii* does not seem so strange when it is recalled that the oviposition is done early in the development of the young pod. How far the finding of additional host plants of *Bruchophagus* will effect practical control remains for investigation.

#### 356TH MEETING

The 356th meeting was held March 1, 1923, in Room 43 of the New National Museum, with Vice-President Dr. A. G. BÖVING in the chair and 38 persons present.

Mr. ROHWER, for the Executive Committee, stated that since the last meeting the Society had received a communication from the Secretary of the International Commission of Zoological Nomenclature requesting that a committee be appointed to prepare preliminary reports on questions of Entomological Nomenclature referred to the Commission. President Howard had appointed as the Society's Committee, Messrs. ROHWER, HEINRICH and BAKER; and since the announcement of the Committee the Commission had referred three distinct questions to its Chairman.

F. W. POOS was elected to membership in the Society.

Program:

R. E. SNODGRASS: *The anatomy and metamorphosis of the apple maggot* (*Rhagoletis pomonella* Walsh).

The following generalizations probably apply to most of the *Cyclorrhapha*:

1. The true larval head has been invaginated to form a prepharyngeal part of the larval alimentary canal. The functional part of the larval head is a mere remnant of the original head.

2. The buds of the imaginal head are carried into the thoracic cavity by the involution of the larval head.

3. The cephalopharyngeal skeleton of the larva is a chitinization in the true larval pharynx, in the walls of the invaginated head, and in the pouches of the latter.

4. The mouth hooks of the larva are located in a part of the invaginated larval head which was either the back part of the original head, or the neck. They appear to be special cuticular larval organs moved by special muscles. No evidence of their mandibular nature has yet been produced.

5. The dorsal spiracles of the larva and pupa are special breathing organs secondarily developed in connection with the dorsal longitudinal trunks of the tracheal system. The spiracles of the adult first appear on the puparium, and are developed in connection with the lower tracheal trunks. The two sets of spiracles are entirely independent of each other.

The larva molts inside the puparium, casting a fourth skin which remains as an envelope about the pupa, unbroken until the fly emerges. The fly leaves both the pupal skin and the prepupal or fourth larval skin inside the puparium.

7. The pupa obtains air through the larval tracheal trunks attached to the anterior larval spiracles of the puparium, these trunks being ruptured inside the fourth larval skin a short distance back of the spiracles.

8. The imaginal buds of appendages belong in all cases to the pupal stage. They may secondarily begin their development in early larval stages or in the embryo, but only in cases where the external larval appendage is entirely gone.

Second paper: CARL HEINRICH, *A revision of the North American moths of the subfamily Eucosminae of the family Olethreutidae*. Pierce's paper opens a new system of classification. In this genitalia take the place of the old wing venation type of classification. In time all species will be described from the male genitalia.

Notes: A. N. CAUDELL spoke of the collection of *Grylloblatta campodeiformis* Walker in California by H. S. Barber.

Dr. SCHWARZ exhibited two specimens of *Mylabris cichorii* L. and said this is a beneficial species, being used for medicinal purposes. This species is often eaten when the Chinese want to commit suicide.

Dr. ALDRICH exhibited a photograph of a group of Dipterists taken in Boston at the recent meeting in December 1922.

J. C. BRIDWELL presented the following three notes:

1. *The habits of Bruchus bixae*.

In 1820 Drapiez described a species of *Bruchus* from Brazil which he believed bred in the seeds of annatto and called it *Bruchus bixae* from the generic name of the host plant, *Bixa orellana*. Since many old specific names of Brucidae based on plant names were in error and this record of a *Bruchus* in this plant so far removed from the legumes in its natural relationships and in the nature of the seeds and pods has never been confirmed, it has been a matter of interest to find what seems to be this species bred from this host plant collected by Dr. Schwarz in Panama. In this material was a considerable lot of the capsules and seeds of *Bixa* infested by *Bruchus bixae*. The adult Bruchids slip in between the partly opened valves of the pod to oviposit upon the seeds in a sheltered position much as its allies *B. pruininus* and